A RECORD OF A RARE MALE OF THE PARTHENOGENETIC PARASITOID *DINOCAMPUS COCCINELLAE* (SCHRANK) (HYM.: BRACONIDAE)

IRENE E. GEOGHEGAN[1], TAMSIN M.O. MAJERUS[2] & MICHAEL E.N. MAJERUS[2]

[1] *Scottish Crop Research Institute, Invergowrie, Dundee DD2 5DA.*

[2] *Department of Genetics, Downing Street, Cambridge CB2 3EH.*

THE WASP *Dinocampus coccinellae* (Schrank) exclusively parasitises coccinellids of the subfamily Coccinellinae (Hodek and Honek, 1996). It is a solitary endoparasite, utilising mainly adult coccinellids (Hodek and Honek, 1996). Female wasps show thelytokous parthenogenesis, laying unfertilised eggs which almost always give rise to female progeny. We here record a male individual of this species.

The male emerged from an overwintered *Coccinella septempunctata* L. (7-spot ladybird). The ladybird was collected on 13 May 1997, in a sample of 100 *C. septempunctata* from a Scots pine *Pinus sylvestris* plantation surrounding Invergowrie Technology Park, Dundee (O/S ref. no. 352312). The sample was retained in captivity in Petri-dishes, at 20°C, and fed on *Acyrthosiphon pisum* (Harris) (pea aphid) to allow parasitoids to emerge. Forty of the ladybirds yielded *D. coccinellae* individuals, all save one of which were normal females. The exception was slimmer and darker than the rest, and lacked the characteristic ovipositor of the normal females. Microscopic examination of this wasp under CO_2 anaesthetic, showed that it had external genitalia similar to those of a male braconid wasp.

A literature search revealed that a small number of males of *D. coccinellae* have been reported previously. Some of the early records have been questioned. The oldest, referred to by Balduf (1926), was recorded by Nees in 1834, and is no longer in existence for checking. Another record from the nineteenth century (Weed and Hart, 1889) was in fact a male of another species (Balduf, 1926). Yet four more recent records appear to be genuine (Muesebeck, 1936 – two records from California; Hudon, 1959 – one male from British Columbia, Canada; Wright, 1978 – one male from Canada). These four verified specimens are retained in permanent museums (two in the US National Museum, one in the Canadian National Museum, Ottawa, and one in the collections of the Department of Environmental Biology, University of Guelph, Ontario. An additional male has recently been reported to us from Czechoslovakia (Oldrich Nedved *pers. comm.*).

The literature reports of previous males provide little detail of the morphology or behaviour of the specimens. Only Wright (1978) gives significant details, reporting on the mating behaviour of the species, and the morphological differences between the sexes. With respect to the sexual dimorphism, our observations are in accord with hers. Wright (1978) describes her male courting, mounting, and apparently copulating with four females. The Scottish male was offered a series of ten individual females, each for one hour, with a half hour interval between each, followed by five females together, which he was left with for ten hours. However, while the Scottish male exhibited pre-copulatory behaviour in the form of holding his wings out from the body at an angle of approximately 40°, and vibrating them intermittently, all his attempts at mounting females were rebuffed.

The male is currently the subject of further research entailing attempts to set up a cell-line culture to allow examination of the karyotype of the male in comparison with that of females, direct karyological examination of cells from females having failed to reveal dividing cells. The remnants of the male, and comparator females, are to be lodged in the Department of Zoology Museum, University of Cambridge, once the karyological examinations have been completed.

References

Balduf, W.V., 1926. The bionomics of *Dinocampus coccinellae* Schrank. *Ann. Ent. Soc. Am.*, **19**: 465-489.

Hodek, I. and Honek, A., 1996. *Ecology of Coccinellidae*. Kluwer Academic Publishers, Dordrecht.

Hudson, M., 1959. First record of *Perilitus coccinellae* (Schrank) (Hymenoptera: Braconidae) as a parasite of *Coccinella novemnotata* Hbst. and *Coleomegilla maculata lengi* Timb. (Coleoptera: Coccinellidae) in Canada. *Canadian Entomologist*, **91**: 63-64.

Muesebeck, C.F.W., 1936. The genera of parasitic wasps of the braconid subfamily Euphorinae, with a review of the Nearctic species. *U.S. Dept. Agr. Misc. Pub.*, **241**: 1-38.

Wright, E.J., 1978. Observations on the copulatory behaviour of *Perilitus coccinellae* (Hymenoptera: Braconidae). *Proc. Ent. Soc. Ontario*, **109**: 22.

The distribution of *Ectoedemia quinquella* (Bedell) (Lep.: Nepticulidae) in Berkshire

Previously I reported the occurrence of the nepticulid *Ectoedemia quinquella* in eastern Berkshire, in the area south of Reading (*Ent. Rec.* **109**: 187-188). During field work this autumn I searched for new sites for this moth. On 16 November 1997 I visited Baynes Wood nature reserve near Greenham Common in central Berkshire. Here, on a large oak growing beside the road at the entrance to the reserve I found mines of this species in abundance. Larvae were also found mining several oaks on the reserve. This site in central Berkshire together with the records for eastern Berkshire referred to above and those published by Baker (1994. *Butterflies and moths of Berkshire*) for Tubney Wood and Buckland Warren in the north-west of the county show that *E. quinquella* is widespread in the county. Indeed, it is abundant in several places.– I. SIMS, 2 The Delph, Lower Earley, Reading, Berkshire RG6 3AN.

Digitivalva pulicariae Klimesch (Lep.: Yponomeutidae) new to North Hampshire

On 27 April 1996, after a very warm day, an example of *D. pulicariae* flew to m.v. light here, along with twenty other species. I am grateful to John Langmaid, who identified the specimen for me, and to Barry Goater, who confirmed the record as new to VC12. Both the cited foodplants, *Pulicaria dysenterica* and *Eupatorium cannabinum*, grow in this neighbourhood.–ALASDAIR ASTON, Wake's Cottage, 1 The Street, Selborne, Hampshire GU34 3JH.